

UNDER SECRETARY OF STATE
FOR ECONOMIC AFFAIRS
WASHINGTON

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TO: Mr. Marc Leland
Assistant Secretary for International Affairs

FROM: E - Allen Wallis *W*



SUBJECT: US-Japan Energy Working Group Meeting

Attached for the Thursday meeting of the SIG-IEP is a paper on issues to be discussed in the US-Japan Energy Working Group.

Attachment:

As stated.

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U.S. - Japan Energy Working Group

Terms of Reference

During Prime Minister Nakasone's visit to Washington, the President proposed a U.S.-Japan working group on energy, "to actively explore how the abundant opportunities for energy cooperation can be transformed into realities for the benefit of both our countries."

Expanded U.S.-Japan energy trade can help strengthen our two nations' economic and security ties. Increases in investment and trade in energy are in the interest of both countries. The working group would seek to establish cooperation in this critical field. The focus of the group's work should be on impediments to private investment in energy. This examination would be against the background of the two governments' projections for energy supply and demand until 2000. It would consider the contributions of various sources of energy to global and national requirements.

The working group should have a broad mandate to cover the entire range of energy issues of interest to the two sides. During the initial stages, both sides will be sounding out each other's views. Once we have obtained a feel for Japanese positions on the various issues, it will be possible to concentrate the group's efforts on specific issues, such as the possibility of allowing export of Alaskan oil to Japan.

U.S. Goals

The Nakasone visit established a positive atmosphere for U.S. - Japanese relations, which have been threatened by a series of contentious issues, principally relating to trade. The energy working group will consider such issues as Japanese reliance on Soviet energy, Japanese investment in U.S. energy, and U.S. sales of coal to Japan.

The principal U.S. goals are:

- To improve the overall atmosphere of U.S. - Japan relations, by providing a forum for discussion of important energy issues.
- To encourage Japanese investment in U.S. energy resources. [development.]*
- To determine the level of Japanese interest in the purchase of Alaskan oil and gas. [and establish a joint strategy to advance the U.S. export possibilities.]*
- To stimulate greater Japanese attention to the security of energy supplies and specifically the hazards in relying on Soviet energy.

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*NSC language

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- To encourage greater Japanese purchases of U.S. coal.
- To remove impediments to the optimal development of U.S. energy resources, thereby promoting Western energy security.

Institutional Arrangements

The initial meeting of the energy working group should be held, if possible, in March in the United States, although earlier informal contact with the Japanese will be necessary to lay the groundwork for a successful first meeting. (Since the U.S. took the initiative in proposing creation of the group, it is appropriate for us to host the first meeting.) A March date, following on the Dourdan meeting of selected IEA/OECD member-country experts on energy, will provide a backdrop against which to begin bilateral discussions. A second meeting could be held later, perhaps in April or May in Tokyo.

We should seek to obtain concrete progress by the time of the next meeting between Prime Minister Nakasone and President Reagan, which will be at the time of the Williamsburg Summit. This would have the advantage of laying down a firm deadline for clarification and resolution of the issues. [Further discussion of energy, within the broader framework of U.S.-Japanese relations, would be held at the U.S.-Japan Sub-Cabinet Group which will meet next in June or July of this year.]*

The Japanese have indicated a desire to involve representatives of their industries in the work of the group. There should be no U.S. objection to arranging for some sort of "advisory committees," although antitrust policies would have to be taken into account.

Secretary Shultz and Judge Clark have both received letters from Senator Murkowski asking that the Senator or one of his staff be given observer status on the working group. The Chiefs of Staff of the Senate Energy Committee and House Energy and Commerce Committee have also expressed an interest in participating. The Japanese may not welcome direct participation by Congressional representatives, since that would open the way for demands by members of their Diet to participate, a situation we believe they would find most difficult. However, it may be possible to arrange some sort of indirect "advisory" role for Congressional representatives. This would greatly facilitate consultations by the administration with the Congress on these issues. In any case, the views of the Japanese will be important in resolving this question.

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*NSC prefers to drop this sentence.

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Questions/Work Program

The following tentative ^{/proposed/} work program includes a list of issues for discussion, either within the USG or with the Japanese. The attached individual issue papers provide additional detail on the major kinds of energy. After refinement of our ideas within the USG, a separate annotated agenda will be drafted for preliminary discussion with the Japanese.

I. Energy Overview:

A. Projections to 2000 of Global Supply of and Demand for Energy

- What will be likely developments in world markets for oil, LNG, nuclear energy, coal and new technologies?

B. Projections to 2000 of National Supply of and Demand for Energy

1. Likely Future Mix of Energy Demand

- What are Japanese estimates for future electricity demand and the primary energy sources from which electricity will be generated?
- What are the current and projected costs in Japan of generating electricity from coal, oil, LNG and nuclear power? On what prices are these estimates based? On what estimates of plant costs?
- Does heavy reliance on LNG for electricity generation make economic sense?

2. Security of Energy supplies

- How do the Japanese assess the relative security of their present and future supplies of oil, LNG, and coal?
- Will the Japanese contract for further energy from the Soviet Union?

3. Potential for U.S. Energy Exports to Japan

II. Energy Investment

A. Impediments to Investment in U.S. Energy Resources

- What are the obstacles the Japanese see to greater investment by them in U.S. energy development?

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B. Outlook for Investment in Energy Development

- Why has greater Japanese participation in U.S. coal development not been forthcoming? Why have Japanese banks formerly interested in West Coast coal port development adopted a go-slow policy?]
- Are the Japanese interested in investing in development of Alaskan resources?
- What is the likelihood that lifting the ban on Alaskan oil exports will be followed by Japanese investment in U.S. energy development?

III. Sector-by-Sector Reviews of U.S.-Japan Energy Relations

A. Oil

- To what extent are Japanese firms interested in importing oil from the United States? Do they have any idea how much oil they would buy from us if we lifted the export ban entirely: today? five years from now? ten years from now? What factors enter into this consideration (e.g. price, transport arrangements security of supply, etc.)?
- Are there economic or political concessions which the Japanese might be willing to offer in exchange for access to Alaskan oil?

- What is the current USG estimate of the results of lifting the ban:

Costs: Effect on merchant fleet, maritime employment, cost to USG for tanker loans?]

Benefits: Increased North Slope and California wellhead prices, and increased development of U.S. energy resources? Reduction of government interference in energy markets, if total decontrol is chosen? Increased revenue from the windfall profits tax? Increased Japanese energy security?

- What are the chances that Congress would include cargo preference provisions in the legislation? How would this affect Japanese interest in the oil? Is the Administration prepared to risk this outcome?]

- Is Congress likely to insist on provisions retaining Alaskan oil in the U.S. in case of a global oil supply emergency? How would this affect Japanese interest in the oil?

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- Are North Slope oil producers likely to support lifting the export ban? Would any conditions be attached to such support?

B. Gas

- What are Japanese projections for future LNG demand? What portion of that demand will be met by contracts already signed? Is there likely to be any substantial market for Alaskan LNG in Japan?
- How do the Japanese view the relative competitiveness of Canadian and Alaskan LNG projects?
- Are the Japanese interested in investing in an Alaskan LNG project?
- What should we say about U.S. support of the Alaskan Natural Gas Transportation System (ANGTS)?

C. Coal

- Is the U.S. being penalized as a "swing supplier" of coal? Are reductions in coal deliveries from other nations proportionate to reductions being imposed on U.S. suppliers?
- Why have Japanese firms not made long-term commitments to buy U.S. coal?
- The Japanese government has clearly expressed its intention to diversify sources of supply of coal. Is it satisfied that the purchasing decisions of its firms will effectively implement that intention?
- Are there any other measures the Japanese government could take to persuade its firms to buy more U.S. coal?
- What actions would the USG take to facilitate increased coal exports (deepen ports, coal slurry legislation, etc.)?
- Are there any measures the two governments could take to stimulate more cooperation between their firms on coal utilization technologies?
- What are the obstacles to greater coal use in Japan? What could be done to increase Japanese use of coal?

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D. Nuclear Power

- What are current Japanese plans for nuclear reactor construction?
- What will be the cost of electricity generated with these new reactors?

E. Energy R & D

- What is the level of Japanese interest in synfuels development, given current and future oil market prospects?
- What are the possibilities for cooperation between Japan and the U.S. in this area? Are the Japanese government or Japanese firms interested in any of the projects currently being considered by the Synthetic Fuels Corporation (SFC)?

Congressional Relations

A number of preliminary contacts have already been made with key Congressmen, notably Senators Stevens and Murkowski, and Congressman Foley. Stevens and Murkowski have indicated willingness to sponsor legislation freeing up the export of Alaskan oil, but want to know exactly what might be offered by the Japanese. As the U.S.-Japan Energy Working Group begins its work, it will be essential to broaden our Congressional contacts.

There are a number of Congressmen and Senators whose states contain energy resources which could potentially become a source of revenue and jobs if impediments to free movement of energy were removed. We should identify these members and develop a coherent, well-managed legislative program. Consultations now can help to build a consensus which may make future legislative efforts much more effective.

Over the next few months, we would conduct briefings of Congressmen and Senators, and their staffs. During these briefings we would undertake to describe the U.S.-Japan Energy Working Group, and try to assess the Congressional mood concerning the options we may be facing in the future, e.g., export of Alaskan oil. Assistant Secretary of State Wolfowitz will include this issue in his briefings on the Hill following up on the visit of Japanese Prime Minister Nakasone and the visit to Japan, China, and Korea of Secretary Shultz.

We would contemplate a series of calls on individual members of the House and Senate, with the staffs of those members, and with such relevant House and Senate committees as Foreign Affairs, and Commerce and Energy.

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PETROLEUM

Background

Trade between the United States and Japan in the petroleum field is currently limited, primarily to U.S. export of limited quantities of refined petroleum products to Japan. Japan has negligible petroleum resources and there is currently a statutory ban on exports of crude oil from the United States. There are three areas for initiative in the petroleum area:

-- Remove some or all restrictions on U.S. crude oil exports to Japan.

Complete lifting of the statutory ban on U.S. crude oil exports would not be easy. Opposition comes from maritime interests and some oil companies who have a considerable stake in transport of Alaskan oil to California and the Gulf Coast, and from a constituency which argues for American energy independence even if it is obtainable only inefficiently and at high cost. Previous Administrations have failed to overcome this opposition. However, the world oil supply situation has eased considerably in the past few years and sentiment in the Congress may have shifted. We are currently taking soundings on Capitol Hill to determine to what extent this is the case.

-- Solicit Japanese investment in development of additional U.S. petroleum resources, particularly in Alaska.

Given the enormous investment which will be required in coming years to develop potential resources in the Beaufort Sea and elsewhere in Alaska, attraction of foreign capital would be extremely valuable. Japanese interest in investing in U.S. petroleum development would probably depend upon two major factors. First, the investment would have to be made economically attractive. Second, at least a portion of the energy produced would have to be available for export to Japan. It is doubtful that Japanese investors would be strongly interested in investment in U.S. petroleum development unless the export ban were eased.

-- Explore the possibility of the United States providing facilities for storage of Japanese strategic petroleum reserves. (Japanese geology does not provide natural structures comparable to those available in the United States; land in Japan is at a premium; Japan has been forced to place most of its reserves in tankers moored offshore while building above-ground tanks onshore at considerable expense.)

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Storage of a portion of Japanese strategic petroleum reserves in underground geological formations in the United States would be much less expensive than in the tankers or above-ground tanks Japan is currently using. It would also be a very tangible symbol of the closeness of the U.S.-Japan relationship. The Japanese have appeared reluctant to pursue this idea in the past, probably primarily because of a feeling that "strategic" reserves should be stored within national boundaries. In fact, the most accessible of the appropriate geological formations in the United States are located in the eastern part of the country. The U.S. crude export ban may also reinforce doubt among the Japanese that they would be able to get their reserves out of the United States in an emergency. Lifting the ban, coupled with an offer of a U.S. Government guarantee of their access to reserves which they own and maintain in the United States, might make such an arrangement more appealing to the Japanese.

A technical working group will produce a report by the end of February on possibilities for export of Alaskan oil. A detailed outline of the report is attached.

Possible Issues for Discussion with the Japanese:

-- To what extent are Japanese firms interested in importing oil from the United States? Do they have any idea how much oil they would buy from us if we lifted the export ban entirely: today? five years from now? ten years from now? What factors enter into this consideration? (e.g. price, transport arrangements, security of supply?)

-- Would Japanese firms be interested in investment in U.S. petroleum development, particularly in Alaska? Under what conditions? Would the potential for purchases of Alaskan oil be sufficient to stimulate such investment?

-- Are there other areas in which we could expand U.S.-Japan cooperation which might improve political sentiment in the United States for lifting the export ban?

-- What is the Japanese assessment of the benefit of storing strategic petroleum reserves in underground formation in the United States relative to storage in above-ground tanks in Japan? Is there anything the U.S. Government could do to enhance the attractiveness of such an arrangement?

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DOE Analysis of the Alaskan Oil Export Ban

As a special condition for allowing construction of the Trans-Alaska Pipeline System (TAPS), Congress prohibited exports of crude oils shipped through the pipeline. In a market unconstrained by the oil export ban, substantial quantities of Alaskan crude oil would be shipped to Japan and other Far East refining centers rather than to the U.S. Gulf or East Coasts. Significant real resource savings could be achieved on a worldwide basis if the ban were removed, due both to reduced transportation costs and to elimination of distorted incentives to investors, oil producers, and consumers that result from the ban.

DOE's analytical efforts on this issue have focused on determination of just how much the ban on exports of crude oil costs the U.S. economy and on how the ban affects U.S. oil production. Secondly, DOE has attempted to estimate how much of those costs would be recouped in the event that one of several export options were adopted. In order to make these determinations it is necessary to establish:

How much Alaskan crude would be exported under full decontrol and under intermediate export options.

What prices would be paid for Alaskan oil in its alternative markets and, hence, what the wellhead price of Alaskan oil would be under each of the options.

What changes in revenue to producers, the Federal Government, and to the State of Alaska would occur under each of the options.

How incentives to invest in, produce, and consume oil would be altered by each of the options.

DOE has provided a preliminary analysis of the potential short-term revenue effects of various rates of export. This analysis is crude, however, and could be improved by using an approach that is more rigorous in terms of how it depicts the structure of the world oil market and the dynamic nature of adjustments in underlying demand and supply patterns.

DOE is currently working to develop more estimates of oil export flows and wellhead price changes that would result from the various export options through application of the Contingency Planning Model (CPM). The CPM is a non-linear programming model that tracks crude oil flows from producing regions to refineries and product flows from refineries to consumers, and that estimates the effect of changes in major components of the world oil market--such as transportation links--on crude oil flows, wellhead prices, and regional product prices. The CPM is particularly appropriate for estimating the effects of the various export policies under consideration.

DOE is currently engaged in debugging and updating the CPM.

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Prospective Outline of Analysis of the Alaskan Oil export Ban

A. Executive Summary -- conclusions of final analysis

1. Introduction

o Background on the export ban

- legislative history
- Alaskan oil development and flows to date
- overview of problems created by the ban
- overview of justifications for the ban

o prospective policy options

2. The Economic and Energy Implications of the Ban

o Effects of the Ban on Distributions of Domestic Crude Oil

- only Alaskan oil will be likely to be affected
- the most likely export will be crude currently shipped to the U.S. Gulf Coast (USGC)
- expected export flows under the various options (for 1983, 1985, 1990)

o Effects of the Ban on Prices of Alaskan and California Crudes

- pricing in the world oil market
import v. domestic oil price differential
netbacks to producers
- effects of the ban on Alaskan oil currently shipped to USGC
increased transport distances
expensive protected "Jones Act" tankers required
- effects of the ban on Alaskan oil currently shipped to USWC
the "West Coast discount"
estimated size of discount
- effect on crude produced in California (CA)
West Coast discount lowers CA crude price

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- o Estimated "Shadow Price" of the Direct Costs of the Ban to the U.S. Economy
 - Shadow price based on the incremental value per barrel of oil sent abroad as opposed to being consumed domestically within the U.S. will give an upper bound on the direct economic cost of ban
- o Effects on Incentives to Invest in, Produce, and Consume Oil
 - reduction in incentives to invest in oil production reduces domestic supply; increases net imports of oil
 - increases cost of USWC refining
 - West Coast discount subsidizes oil consumption on USWC
- o Gross Revenue and Net Federal Reserve Effects
 - Gross revenue expected from each policy
 - Expected Federal reserve effects (WPT and Federal Income Tax); offsetting revenue losses; net effect

3. The Effects of Lifting the Ban on the U.S. Tanker Industry

- o Background on U.S. flag tanker trade
- o Estimates of tanker displacement for each option
- o West-to-East pipelines; construction made more likely if ban is retained
 - effect of pipelines on U.S. tanker trade
- o National Defense Implications of Tanker Loss
 - Militarily useful tankers in Alaskan oil trade
 - Expected losses under each option
 - Cost of purchase and layup

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4. Energy Security Implications

- o The ban does not improve U.S. energy security
 - World oil market makes targeted oil embargo impossible
 - Oil available at world price in a disruption

5. Foreign Policy Implications

- o U.S.-Japan relations
- o The ban damages U.S. international trade posture
- o Cargo preferences for U.S. flag tankers; U.S. friendship, navigation and commerce treaties

6. Environmental Effects

- o Ban increases exposure of U.S. coastlines to oil spillage and accident
 - Ban encourages constriction of pipelines that would create environmental risks
- o Effect of various options on environmental risks

7. Legal Action Required for Each of the Proposed Options

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NATURAL GAS

Background

The United States has been shipping modest quantities of Alaskan LNG regularly since November 1969 to Japanese customers, including Tokyo Gas Company and Tokyo Electric Power Company. In 1982, these shipments, made by Marathon and Phillips, totalled about 50 billion cubic feet or 6 percent of the Japanese LNG market. Federal authorization to export this LNG expires in June 1984, and the companies are expected to seek an extension of the contract.

Recently, there has been renewed interest by private firms in both the U.S. and Japan in exploring the possibility of shipping North Slope gas to Japan via a trans-Alaskan gas pipeline system (TAGS), instead of to the continental United States through Canada via the proposed, but financially plagued, Alaskan Natural Gas Transportation system (ANGTS). Former Alaskan Governor Walter Hickel, the leading proponent of TAGS, has visited Japan and Korea to assess the interest of these countries in purchasing and investing in the development of Alaskan gas and has discussed the issue with senior USG officials.

In January, Hickel and another former Alaskan Governor William Egan issued a report, commissioned by the State of Alaska, entitled "TAGS: Economics of an Alternative for North Slope Gas." The report argues that the western Pacific LNG market, mainly Japan, is the superior market for Alaskan LNG in the 1990's, from the standpoint of both market demand and pricing. Such a project could also reduce the need for further Japanese reliance on Soviet gas.

However, declines in demand expected in the 1990s, coupled with successful Japanese efforts to secure long-term LNG supplies in Asia, the Middle East, the USSR, and Canada, suggest that it will be difficult for U.S. LNG marketers to capture the share of the Japanese market necessary to make TAGS economically feasible. However, because of their high dependence on potentially-insecure sources, the Japanese may be interested in investing in U.S. LNG for security of supply reasons.

Possible Issues for Discussion with the Japanese:

- What is the current Japanese LNG outlook for the 1990s?
- Do the Japanese see any substantial market for LNG imports from Alaskan the 1990's? If so, how large?
- Would the Japanese be interested in investment in Alaskan natural gas projects?
- Do the Japanese see a market for both Alaskan and Canadian LNG?

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COAL

Background

Japan is the largest purchaser of U.S. coal. During the first 11 months of 1982, U.S. coal exports to Japan totalled 24.8 million tons, of which 3.2 million tons were steam coal and the remainder metallurgical coal.

In recent months, the Japanese have sharply lowered their estimates of future steam coal consumption. They now believe that because of lower economic growth and stable oil prices, Japanese steam coal consumption in 1990 will reach only 35 million tons, rather than the 55 million tons previously estimated. (They project that the entire decline in electricity demand growth will fall on coal. LNG import plans have not been affected.) In addition, the current recession has sharply reduced demand for coal for steelmaking, and Japanese buyers have sought to reduce contracted 1983 deliveries. Some observers believe U.S. firms have borne disproportionate cutbacks, in light of high-level Australian and Canadian government pleas that their sales not be reduced at all.

Major new coal mining and exporting facilities are due to open in the Pacific Basin in the next few years, partly as a result of past exaggerated Japanese projections of coal consumption. In British Columbia alone, coal export capacity will go from 12 million tons to 22 million tons by mid-1984. The U.S. coal industry fears that because the Japanese encouraged construction of these facilities, they may seek to maintain purchasing volumes from them, at the expense of "swing suppliers" in the U.S. Japanese firms have been slow to sign long-term contracts for U.S. western steam coal, and Japanese banks which formerly were active in some U.S. projects (e.g. new coal terminals in Long Beach and Los Angeles) have now adopted a "go slow" attitude.

Possible Issues for Discussion with the Japanese

-- What are Japanese estimates of steam coal consumption for the next decade? What percentage will come from the various supplier countries?

-- Does heavy reliance on LNG for electricity generation make economic sense? If electricity demand is lower than expected, would it not be logical to reduce LNG import plans somewhat, rather than letting the entire burden fall on coal?

-- When changing conditions require reductions in plans to use coal, how are the cutbacks distributed among supplier countries? Is the U.S. being penalized as a "swing supplier?"

-- What action can the U.S. take to facilitate increased coal exports (deeper ports, coal slurry legislation, etc.)?

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-- What obstacles are keeping Japanese firms from signing long-term contracts with U.S. steam coal suppliers, and from investing in U.S. coal facilities?

-- What factors are contributing to reductions in projected Japanese steam coal consumption? Are there environmental obstacles? If so, what might be done to alleviate them?

-- What can governments do to stimulate greater cooperation between Japanese and U.S. firms on coal utilization technologies?

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NUCLEAR ENERGY

Background

The U.S. and Japan have well-established bilateral and multilateral mechanisms in which nuclear issues are discussed. Nevertheless, the Working Group could benefit from discussing Japanese projections for nuclear reactor construction, dates of completion and capacities for fuel cycle facilities, the growth in demand for electricity and sources of additional electrical capacity.

The U.S. and Japan are currently engaged in intensive talks in an attempt to renegotiate the U.S.-Japan nuclear cooperation agreement. The Working Group should avoid issues that may affect the outcome of these on-going negotiations.

Japan has an exceptionally advanced, well-developed nuclear program, including plans to complete the nuclear fuel cycle in order to diminish Japan's imported energy requirements.

Presently there are 24 nuclear power reactors operating in Japan capable of generating 16.9% of Japan's electrical needs. With an additional 11 plants under construction and 6 others planned, Japanese nuclear generating capacity could reach 16 to 25% of electrical capacity by 1990, depending on the rate of growth of electrical demand. However, Japan, like the U.S., has been facing delays in the deployment of power reactors. Siting problems and environmental concerns have increased the average lead time for the construction of a nuclear plant in Japan from 7 to 10 years on the average. (This is still better than the U.S.)

Possible Issues for Discussion with the Japanese

Nuclear/Electricity

-- What is the future estimated growth in demand for electricity in Japan? What planned energy mix will provide the needed capacity?

-- What are the current comparative costs of electricity in Japan as regards coal, oil, nuclear energy and hydropower?

-- On what fuel prices are the above estimates based?

-- What are the lead times involved in constructing coal, nuclear, oil and hydro facilities? What is the expected life of these installations?

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NON-NUCLEAR ENERGY RD&D COOPERATION WITH JAPAN

Through its government-sponsored "Sunshine Program," Japan has placed a high priority on developing alternative energy sources, such as synthetic fuels and geothermal energy. By 1995 the Japanese plan to have synthetic fuels account for some 4 to 5 percent of their energy supplies, supplementing the 16.5 percent of Japan's energy expected to be obtained directly from imported coal.

The Japanese are pursuing three basic types of coal liquefaction technology. Two of these--Direct liquefaction (hydrogenation) and Donor Solvent liquefaction--have been the subject of considerable R&D effort in the United States. The Japanese are now on the point of selecting a process for Japan's first commercial size coal liquefaction pilot plant. They have been sending missions to the United States and the FRG to study and select an appropriate technology. They are also in close touch with the United States Synthetic Fuels Corporation about possible cooperation in U.S. based commercial synthetic fuel projects. One sore point is Japanese concern over whether the United States will see synthetic fuel development through. They were very disturbed by the unilateral withdrawal by the United States from the SRC-II Coal Conversion project in 1981.

Possible Issues for Discussion with the Japanese

-- What are their views regarding synfuel development as an alternative to imported petroleum?

-- What is their interest in U.S. feedstock and technology for synfuel development?

-- Are they interested in participation in U.S.-based commercial sized synthetic fuel projects?

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